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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,818	11/16/2001	Masahiko Matsuura	44318	7649

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WASHINGTON, DC 20005-3096

EXAMINER

AWAD, AMR A

ART UNIT	PAPER NUMBER
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2675

8

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,818

Applicant(s)

MATSUURA ET AL.

Examiner

Amr Awad

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-7 and 9 is/are allowed.
- 6) ☒ Claim(s) 1,2,8,10-21 and 29 is/are rejected.
- 7) ☒ Claim(s) 22-28 and 30-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 11-21 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan (US patent NO. 4,143,103 provided by the Applicant) in view of Evans (US Patent NO. 3,612,758).

As to claim 1, Sheridan (figures 1, 2 & 2A) teaches A method for displaying an image, comprising the steps of:

Providing a reversible image display medium comprising; two substrates (6 & 8) opposed to each other with a gap therebetween; one or more developer accommodating cells formed between the two substrates (col. 3, lines 14-26); and a dry developer (15) contained in each of the cell(s), the dry developer containing at least two kinds of frictionally chargeable dry developing particles (14) having different chargeable polarities and different optical reflection densities (col. 3, lines 42-68); and displaying an image by driving the frictionally charged developing particles having different chargeable polarities in an electrostatic field corresponding to the image to be displayed (figure 2 and col. 4, lines 6-21).

Art Unit: 2675

Sheridon does not expressly teach that in the image display step, strength of the electric field to be applied to the developer is 0.3 V/ μ m to 3.0 V/ μ m. Sheridan does not teach having a periphery surrounded by a partition wall; and a dry developer contained in each of the cell(s)

However, Evans teaches a color display device employing electrophoretic migration of color pigment particles to form an image display panel (abstract). Evans also teaches that the field necessary for particle migration is small (on the order of 0.5 V/ μ m) (col. 5, lines 40-50), which is well within the range recited in claim 1 of the present application. Evans (figure 1) teaches having a periphery surrounded by a partition wall (insulating material 13); and a dry developer contained in each of the cell(s) (col. 3, lines 22-24).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Evans to be incorporated to Sheridan's device to reach the claimed limitations of claimed 1 in the present application, so as motivated by Evans, to reduced the required electric field (col. 5, lines 48-50), and therefore, reducing the power used in the display device. It would have been also obvious to include the teaching of Evans having partitioning to be incorporated to Sheridan's device so as motivated by Evans, to be able to withstand the etching agents (col. 3, lines 23-24).

As to claim 2, Sheridan teaches that magnetic particles can be used (col. 5, lines 10-14).

Art Unit: 2675

As to independent claim 11, the claim is similar to claim 1 above except that claim 11 does not recite the value of the static electric field.

As to claim 12, Sheridan teaches using alternating field (col. 4, lines 7-14).

As to claim 13, the claim recites a value similar to the value recited in claim 1, which as seen above, taught by Evans.

As to claims 14-15, the claims recite a frequency values for the device. However, such values do not emphasize any significant as what would be the benefit from applying such values. Therefore, examiner asserts that such values are based on the design of the device and provide no specific improvements.

As to claims 16-20, the claim is substantially similar to independent claims 11-15 and would be analyzed as previously discussed.

As to claim 21, the claim is substantially similar to claim 11 above, except that the claim recites having magnetic field, which as shown above with respect to claim 2, taught by Sheridan.

As to claim 29, the claim is an apparatus claim corresponds to the method of claim 21 and would be analyzed as previously discussed with respect to claim 21.

3. Claims 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan in view of Moore (US patent NO. 6,611,100).

As to independent claim 8, Sheridan (figures 1, 2 & 2A) teaches a method for displaying an image, comprising the steps of:

Providing a reversible image display medium comprising; two substrates (6 & 8) opposed to each other with a gap therebetween; one or more developer accommodating cells formed between the two substrates (col. 3, lines 14-26); and a dry developer (15) contained in each of the cell(s), the dry developer containing at least two kinds of frictionally chargeable dry developing particles (14) having different chargeable polarities and different optical reflection densities (col. 3, lines 42-68); and displaying an image by driving the frictionally charged developing particles having different chargeable polarities in an electrostatic field corresponding to the image to be displayed (figure 2 and col. 4, lines 6-21).

Sheridon does not teach having a periphery surrounded by a partition wall; and a dry developer contained in each of the cell(s). Sheridan does not teach having a holding potential to hold the displayed image after the completion of application of electrostatic field.

However, Moore (figure 3) teaches an electrophoretic display that includes partitions (walls 68) and wherein a holding potential is being used to the displayed images (col. 5, lines 41-53).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Moore having partitioning to be applied to Sheridan's device so as be able to control the flowing of electric field and therefore, providing accurate and superior grayscale characteristics without using complicated structure. It would have been also obvious to use a holding potential as

Art Unit: 2675

taught by Moore, so as to be able to maintain the displayed images without deterioration in the quality of the display.

As to claim 10, from Moor's figure 4, it is apparent that the holding potential is lower than 100V because as described by Moore, the writing voltage is reaching to zero which means that the holding voltage is within the claimed value.

Response to Arguments

4. Applicant's arguments filed February 19, 2004 have been fully considered but they are not persuasive.

Applicant's main argument (page 17) is direct to show that "the dry developer containing at least two kinds of frictionally chargeable dry developing particles having different chargeable polarities and different optical reflection densities..." and that neither Sheridan nor Evans discloses or suggests an image display medium ***two kinds of particles***, as required. Examiner respectfully disagrees. The broadest reasonable interpretation to this limitation is simply having two particles, which are clearly shown by Sheridan (18 in figure 2A) and both having different chargeable polarities (negative and positive polarities in each one of them) and different optical reflection densities. Therefore, examiner believes that Sheridan teaches the claimed limitation. Same argument also applied to independent claim 8.

Allowable Subject Matter

5. Claims 3-7 and 9 are allowed.

Art Unit: 2675

6. Claims 22-28 and 30-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and if the double patenting rejection is overcome.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amr Awad whose telephone number is (703)308-8485. The examiner can normally be reached on Monday-Friday, between 9:00AM to 5:30PM.

Art Unit: 2675

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Saras can be reached on (703)305-9720. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4750.



4-20-2004

A.A.